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09/841,734	04/24/2001	Kenneth E. De Paul	135813	6538

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EXAMINER	
NGUYEN, PHUONGCHAU BA	
ART UNIT	**PAPER NUMBER**
2665	8

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/841,734	Applicant(s) DE PAUL, KENNETH E.	
	Examiner Phuongchau Ba Nguyen	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *4-24-04 application*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 7.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Objections

1. Claim 44 is objected to because of the following informalities: line 1, "13" should be changed to ----43----. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 18, 32, 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Rochberger (6,577,653).

Regarding claims 1, 18, 32, 39:

Rochberger (6,577,653) discloses a method for facilitating inverse multiplexing over asynchronous transfer mode, comprising:

receiving a stream of sequentially aligned ATM cells via an originating end point logical communication link (90, fig.4);

associating a sequence identifier with each one of said ATM cells for creating sequence identified ATM cells (90, fig.4); and

forwarding said sequence identified ATM cells in a distributed manner over a plurality of IM communication links (94, 96, 98, fig.4), wherein a first one of said IM communication links having disparate data transmission rates in at least one data transmission direction with respect to a second one of said IM communication links (col.12, lines 54-56, fig.4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2, 16, 19, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rochberger (6,577,653) as applied to claims 1, 18, 32 above, and further in view of Sherif (5,459,722).

Regarding claims 2, 16, 19, 33:

Rochberger does not explicitly disclose wherein associating the sequence identifier includes determining a sequence code for each one of said ATM cells and inserting the sequence code for each one of said ATM cells into an information payload portion of a corresponding one of said ATM cells. Rochberger further discloses wherein associating the sequence identifier includes determining a sequence code for each one of said ATM cells and inserting the sequence code for each one of said ATM cells of a corresponding one of said ATM cells {fig.4}. However, in the same field of endeavor, Sherif (5,459,722) discloses inserting the sequence code for each one of said ATM cells into an information payload portion of a corresponding one of said ATM cells {fig.4, sequence number}. Therefore, it would have been obvious to an artisan to apply Sherif's teaching to Rochberger's system with the motivation being to prevent packet loss.

6. Claims 3, 20, 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rochberger (6,577,653) as applied to claims 1, 18, 32 above, and further in view of Gaddis (5,457,681) .

Regarding claims 3, 20, 34:

Rochberger does not explicitly disclose wherein associating the sequence identifier includes determining a sequence code for each one of said ATM cells and inserting the sequence code for each one of said ATM cells into a header portion of a corresponding one of said ATM cells. Rochberger further discloses wherein associating the sequence identifier includes determining a sequence code for each one of said ATM cells {fig.4}. However, in the same field of endeavor, Gaddis (5,457,681) discloses inserting the sequence code (identififer 8, fig.6) for each one of said ATM cells into a header portion of a corresponding one of said ATM cells {col.8, lines 3-5}. Therefore, it would have been obvious to an artisan to apply Gaddis's teaching to Rochberger's system with the motivation being to distinguish between different Ethernet frames sent by the same portal.

7. Claims 4-5, 21, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rochberger (6,577,653) as applied to claims 1, 18, 32 above, and further in view of Chiu (6,597,689).

Regarding claim 4:

Rochberger does not explicitly disclose wherein associating the sequence identifier is facilitated by an originating endpoint IMA-ADSL communication device. However, in the same field of endeavor, Chiu (6,597,689) discloses wherein associating the sequence identifier is facilitated by an originating endpoint IMA-ADSL

communication device {fig.2, col.6, lines 35-40}. Therefore, it would have been obvious to an artisan to apply Chiu's teaching to Rochberger's system with the motivation being to transparent transport layer 3 protocols such as IP and IPX {col.9, lines 54-67}.

Regarding claims 5, 21, 35:

Rochberger does not explicitly disclose wherein forwarding said sequence identified ATM cells in a distributed manner over a plurality IM communication links includes forwarding said sequence identified cells over a plurality of IM-ADSL communication links. Rochberger further wherein forwarding said sequence identified ATM cells in a distributed manner over a plurality IM communication links includes forwarding said sequence identified cells over a plurality of IM communication links. However, in the same field of endeavor, Chiu (6,597,689) discloses IM-ADSL communication links {fig.2, col.6, lines 35-40}. Therefore, it would have been obvious to an artisan to apply Chiu's teaching to Rochberger's system with the motivation being to transparent transport layer 3 protocol such as IP and IPX {col.9, lines 54-67}.

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rochberger (6,577,653) as applied to claim 16 above, and further in view of Chiu (6,597,689).

Regarding claim 17:

Rochberger does not explicitly disclose wherein forwarding said sequence identified ATM cells in a distributed manner over a plurality IM communication links includes forwarding said sequence identified cells over a plurality of IM-ADSL communication links. Rochberger further wherein forwarding said sequence identified ATM cells in a distributed manner over a plurality IM communication links includes forwarding said sequence identified cells over a plurality of IM communication links. However, in the same field of endeavor, Chiu (6,597,689) discloses IM-ADSL communication links {fig.2, col.6, lines 35-40}. Therefore, it would have been obvious to an artisan to apply Chiu's teaching to Rochberger's system with the motivation being to transparent transport layer 3 protocol such as IP and IPX {col.9, lines 54-67}.

9. Claims 6-8, 22-24, 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rochberger (6,577,653) in view of Chiu (6,597,689) as applied to claims 5, 21, 35 above, and further in view of Edvardsen (WO 99/39468).

Regarding claims 6, 22, 36:

Rochberger does not explicitly disclose wherein: a first one of said IM-ADSL communication links is synchronized at a first upstream data transmission rate; and a second one of said IM-ADSL communication links is synchronized at a second upstream data transmission rate different than the first upstream data transmission rate. However, in the same field of endeavor, Edvardsen (WO 99/39468) discloses wherein:

a first one of said IM-ADSL communication links is synchronized at a first upstream data transmission rate (real time traffic); and a second one of said IM-ADSL communication links is synchronized at a second upstream data transmission rate different than the first upstream data transmission rate (non-real-time traffic) {fig.5}. Therefore, it would have been obvious to an artisan to apply Edvardsen's teaching to Rochberger's system with the motivation being to solve cell delay variation (CDV).

Regarding claims 7, 23, 37:

Rochberger does not explicitly disclose wherein: a first one of said IM-ADSL communication links is synchronized at a first downstream data transmission rate; and a second one of said IM-ADSL communication links is synchronized at a second downstream data transmission rate different than the first downstream data transmission rate. However, in the same field of endeavor, Edvardsen (WO 99/39468) discloses wherein: a first one of said IM-ADSL communication links is synchronized at a first downstream data transmission rate (real time traffic); and a second one of said IM-ADSL communication links is synchronized at a second downstream data transmission rate different than the first downstream data transmission rate (non-real-time traffic). Therefore, it would have been obvious to an artisan to apply Edvardsen's teaching to Rochberger's system with the motivation being to solve cell delay variation (CDV).

Regarding claims 8, 24, 38:

Rochberger does not explicitly disclose wherein: a first one of said IM-ADSL communication links is synchronized at a first downstream data transmission rate and at a first upstream data transmission rate; and a second one of said IM-ADSL communication links is synchronized at a second downstream data transmission rate different than the first downstream data transmission rate and at a second upstream data transmission rate different than the first upstream data transmission rate. However, in the same field of endeavor, Edvardsen (WO 99/39468) discloses wherein: a first one of said IM-ADSL communication links is synchronized at a first downstream data transmission rate (real time traffic) and at a first upstream data transmission rate (real time traffic); and a second one of said IM-ADSL communication links is synchronized at a second downstream data transmission rate (non-real time traffic) different than the first downstream data transmission rate and at a second upstream data transmission rate (non-real time traffic) different than the first upstream data transmission rate. Therefore, it would have been obvious to an artisan to apply Edvardsen's teaching to Rochberger's system with the motivation being to solve cell delay variation (CDV).

10. Claims 9-15, 25-30, 36-38, 40-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rochberger (6,577,653) in view of Chiu (6,597,689) as applied to claims 5, 21, 35 above, and further in view of Vallee (5,608,733).

Regarding claims 9, 25:

Rochberger does not explicitly disclose receiving said sequence identified ATM cells by a destination endpoint IMA communication device; and forwarding an aligned stream of inversely multiplexed ATM cells across a destination endpoint logical communication link. However, in the same field of endeavor, Vallee (5,608,733) discloses disclose receiving said sequence identified ATM cells by a destination endpoint IMA communication device; and forwarding an aligned stream of inversely multiplexed ATM cells across a destination endpoint logical communication link (fig.4). Therefore, it would have been obvious to an artisan to apply Vallee's teaching to Rochberger's system with the motivation being to recover a proper sequence of cells and adjust relative link delay.

Regarding claims 10, 26, 40:

Rochberger does not explicitly disclose wherein receiving said sequence identified ATM cells includes holding at least a portion of said sequence identified ATM cells in a data storage device. However, in the same field of endeavor, Vallee (5,608,733) discloses wherein receiving said sequence identified ATM cells includes holding at least a portion of said sequence identified ATM cells in a data storage device {col.4, lines 42-46}. Therefore, it would have been obvious to an artisan to apply Vallee's teaching to Rochberger's system with the motivation being to recovering the initial cell stream from the incoming links.

Regarding claims 11, 27, 41:

Rochberger does not explicitly disclose wherein forwarding the aligned stream of inversely multiplexed ATM cells includes sequentially retrieving said sequence identified ATM cells from the data storage device. However, in the same field of endeavor, wherein forwarding the aligned stream of inversely multiplexed ATM cells includes sequentially retrieving said sequence identified ATM cells from the data storage device {col.4, lines 65-66; col.6, lines 12-20}. Therefore, it would have been obvious to an artisan to apply Vallee's teaching to Rochberger's system with the motivation being to adjust relative link delay.

Regarding claims 12, 28, 42:

Rochberger does not explicitly disclose wherein sequentially retrieving said sequence identified ATM cells includes determining the sequence identifier associated with a plurality of said sequence identified ATM cells. However, in the same field of endeavor, Vallee discloses wherein sequentially retrieving said sequence identified ATM cells includes determining the sequence identifier associated with a plurality of said sequence identified ATM cells {col.4, lines 65-col.5, line 16}. Therefore, it would have been obvious to an artisan to apply Vallee's teaching to Rochberger's system with the motivation being to recover the initial cell stream from the incoming links and to adjust relative link delay.

Regarding claims 13, 16, 29, 31, 43:

Rochberger further discloses receiving said sequence identified ATM cells at a destination endpoint IMA communication device. Rochberger does not explicitly disclose determining a next one of said sequence identified ATM cells to forward over a destination endpoint logical communication link; and forwarding the next one of said sequence identified ATM cells over the destination endpoint logical communication link. However, in the same field of endeavor, Vallee discloses disclose determining a next one of said sequence identified ATM cells to forward over a destination endpoint logical communication link {col.6, lines 18-20}; and forwarding the next one of said sequence identified ATM cells over the destination endpoint logical communication link {col.6, lines 21-22}. Therefore, it would have been obvious to an artisan to apply Vallee's teaching to Rochberger's system with the motivation being to provide a method of sending a series of ATM cells spread between ATM inverse multiplexers over a connection of a plurality of transmission links in a specific round robin and preserving link integrity by periodically sending sequence number cells.

Regarding claims 14, 30, 44:

Rochberger does not explicitly disclose wherein determining the next one of said sequence identified ATM cells includes determining the sequence identifier for a plurality of sequence identified ATM cells. However, in the same field of endeavor, Vallee discloses wherein determining the next one of said sequence identified ATM

cells includes determining the sequence identifier for a plurality of sequence identified ATM cells {col.4, lines 56-61; col.4, line 63-col.5, line 5; col.6, lines 6-22}. Therefore, it would have been obvious to an artisan to apply Vallee's teaching to Rochberger's system with the motivation being to provide a method of sending ATM cells containing sequence numbers therein over a plurality of transmission links in a specific round robin and preserving link integrity by periodically sending sequence number cells.

Regarding claim 15:

Rochberger does not explicitly disclose wherein determining and forwarding are facilitated by the destination endpoint IMA communication device. However, in the same field of endeavor, Vallee discloses wherein determining and forwarding are facilitated by the destination endpoint IMA communication device {col.6, lines 5-22; fig.4}. Therefore, it would have been obvious to apply Vallee's teaching to Rochberger's system and the motivation being to reassemble ATM cells in a proper sequential order.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchau Ba Nguyen whose telephone number is 703-305-0093. The examiner can normally be reached on Monday-Friday from 10:00 a.m. to 2:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 703-308-6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PN

Phuongchau Ba Nguyen
Examiner
Art Unit 2665

DUC HO
PRIMARY EXAMINER

8_10_04